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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Akihisa Sato

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2479

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EXAMINER

ADAMS, CHARLES D

ART UNIT

PAPER NUMBER

2164

DATE MAILED: 11/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/811,878	SATO ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Charles D. Adams	2164	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 September 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Remarks*

1. In response to communications filed on 12 September 2006, claims 1-10 are amended. Claims 1-10 are pending in the application.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 4 recites the limitation "said configurations" in line 5. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chambliss et al. (US Pre-Grant Publication 2004/0003087) in view of Sekijima et al. (US Patent 6,957,429).

As to claim 1, Chambliss et al. teaches:

An information processing apparatus which is used to operate a plurality of applications to request data input/output to/from a storage (see paragraph [0044]); and

A management host which manages said storage (see paragraphs [0044]-[0046] and [0083]. The gateways serve as management hosts),

Wherein said storage and said information processing apparatus constitute an access process section for processing an access request from an application (see paragraph [0044]-[0047]),

Wherein said information processing apparatus comprises an access monitoring section which monitors an access request from said application and obtains information about said access request for each of said applications (see paragraphs [0046] and [0082]-[0083]);

Wherein said management host comprises:

An acceptance section which accepts specification of a new application (see paragraph [0083] and [0078]. Service classes categorize requests (applications));

An estimated load calculation section which calculates estimated amount of data accessed from said application to said storage, in case of addition of said new application based on information obtained by said access monitoring section (see paragraphs [0063]-[0071]. Configuration rates can be set that limit "amounts of data" or rates of data transfer. Also see paragraph [0075] and [0082]-[0083]. "The balance vector value of a service class denotes a level of credit defining how much usage of the associated resource can be performed immediately without causing the usage limit to be exceeded. A request is admitted into servicing by the storage system only when the

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balance vector values exceed the predicated resource usage of that request, and for each request that is admitted into serving, the balance vector values are reduced by the request's resource usage", paragraph [0082]);

Chambliss et al. does not explicitly teach a load data output section which outputs the estimated amount of data calculated by said estimated load calculation section.

Sekijima et al. teaches a load data output section which outputs the estimated amount of data calculated by said estimated load calculation section (see 3:53-59).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Chambliss et al. by the teaching of Sekijima et al., since Sekijima et al. teaches that "the present invention presents users with a list of applicable services dynamically updated and enables the users to specify selective combinations of the services. Thereby, the present invention provides service users with the easy recognition of applicable services, flexible selection of services to meet users' purposes, and smooth application of selected services to relevant data" (see 2:47-53).

As to claim 2, Chambliss et al. as modified teaches:

wherein said management host comprises a current load calculation section which calculates current amount of data accessed from said application to said storage, based on information obtained by said access monitoring section (see paragraphs [0082]-[0083]); and

wherein said estimated load calculation section calculates estimated amount of data in case of addition of said new application based on current amount of data calculates by said current load calculation section and based on information obtained by said access monitoring section (see paragraph [0083]).

As to claim 3, Chambliss et al. as modified teaches:

Wherein said storage comprises at least one port and at least one array group including a plurality of disk units (see paragraph [0044]. There are connections between the different elements of the systems. Connections between components are 'ports');

wherein said information processing apparatus accesses, via said at least one port, a virtual area provided by said at least one array group (the specification of the present application describes a 'virtual area' in paragraph [0062]: "The array group provides one virtual area comprising a plurality of redundant physical disk units".

Chambliss et al., paragraph [0048], states that "the storage system is a collection of RAID controllers". As RAID stands for "Redundant Array of Inexpensive Disks", and as a virtual area is comprised of "a plurality of redundant physical disk units", then Chambliss et al. teaches this limitation).

Wherein said access process section includes said at least one port and said at least one array group (see paragraphs [0044]-[0046]. The access process section can include the storage drives (array groups), and the gateways);

Wherein said estimated load calculation section calculates each of estimated amount of data in said at least one array group when a new application is added (see

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paragraphs [0075] and [0082]-[0083]. It calculates the estimated cost for at least one storage group, which, according to paragraph [0048], is in a RAID configuration).

As to claim 4, Chambliss et al. as modified teaches:

Wherein said configurations for said at least one port and said at least one array group comprise a configuration information storage section which stores information about available combinations capable of processing said access request (see paragraphs [0063]-[0071], [0073]-[0075], and [0107]-[0109]); and

Wherein said estimated load calculation section calculates estimated amount of data with respect to said available combinations of said configurations for said at least one port and said at least one array group (see paragraph [0082]-[0083]).

As to claim 5, Chambliss et al. teaches:

A storage which stores a database (see paragraph [0044] and [0058]-[0060]. There is information is stored by address, therefore, the storage is a database);

A plurality of information processing apparatuses which are used to operate an application requesting data input/output to/from said storage (see paragraph [0044] and Figure 2. The different sets of gateways, switches, and storage comprise "information processing apparatuses");

Wherein each of said information processing apparatuses comprises:

A database management system which processes an access request from said application to said database (see paragraph [0044]-[0046] and [0083]);

An access monitoring section which monitors an access request sent from said application to said database management system and obtains information about said access request (see paragraph [0044]-[0046] and [0083]);

An access information output section which collects information about said access request and adds up said information correspondingly to said application (see paragraph [0044]-[0046] and [0083]);

Wherein said management host comprises:

An acceptance section which accepts specification of a new application (see paragraph [0083]);

A current load calculation section which calculates current load data based on information obtained by said access monitoring section (see paragraphs [0063]-[0071], [0075] and [0082]-[0083]);

An estimated load calculation section which calculates estimated amount of data accessed from said application to said storage, calculated by said current load calculation section and based on information obtained by said access monitoring section (see paragraphs [0063]-[0071], [0075], and [0082]-[0083]);

A configuration setup section which sets up a change in configuration of said storage based on the estimated amount of data calculated by said estimated load calculation section (see paragraphs [0082]-[0083]. The amount of available storage will



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be changed upon the addition of a new program based on the estimated cost of that program).

Chambliss et al. does not teach a load data output section which outputs estimated amount of data calculated by said estimated load calculation section.

Sekijima et al. teaches a load data output section which outputs estimated amount of data calculated by said estimated load calculation section (see 3:53-59).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Chambliss et al. by the teaching of Sekijima et al., since Sekijima et al. teaches that “the present invention presents users with a list of applicable services dynamically updated and enables the users to specify selective combinations of the services. Thereby, the present invention provides service users with the easy recognition of applicable services, flexible selection of services to meet users’ purposes, and smooth application of selected services to relevant data” (see 2:47-53).

As to claim 6, Chambliss et al. teaches:

A storage which stores a file (see paragraph [0044] and [0058]-[0060]);

A plurality of information processing apparatuses which are used to operate an application requesting input/output of data stored in a file to/from said storage (see paragraph [0044] and Figure 2); and

A management host which manages said storage (see paragraph [0044]-[0046] and [0083]),

Wherein each of said information processing apparatuses comprises:

A file system which processes an access request from said application to said file (see paragraph [0044]-[0046] and [0082]-[0083]);

An access monitoring section which monitors an access request sent from said file system to said storage and obtains information about said access request (see paragraph [0044]-[0046] and [0082]-[0083]); and

An access information output section which collects information about said access request and adds up said information correspondingly to said application (see paragraph [0044]-[0046] and [0082]-[0083]),

Wherein said management host comprises:

An acceptance section which accepts specification of a new application (see paragraphs [0082]-[0083]);

A current load calculation section which calculates current amount of data based on information obtained by said access monitoring section (see paragraphs [0063]-[0071], [0075] and [0082]-[0083]);

An estimated load calculation section which calculates estimated amount of data accessed from said application to said storage, in case of addition of said new application based on current amount of data calculated by said access monitoring section (see paragraphs [0063]-[0071], [0075], and [0082]-[0083]);

A configuration setup section which sets up a change in configuration of said storage based on estimated amount of data calculated by said estimated load calculation section (see paragraphs [0082]-[0083]). The amount of available storage will

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be changed upon the addition of a new program based on the estimated cost of that program).

Chambliss et al. does not teach a load data output section which outputs estimated amount of data calculated by said estimated load calculation section;

Sekijima et al. teaches a load data output section which outputs estimated amount of data calculated by said estimated load calculation section (see 3:53-59).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Chambliss et al. by the teaching of Sekijima et al., since Sekijima et al. teaches that “the present invention presents users with a list of applicable services dynamically updated and enables the users to specify selective combinations of the services. Thereby, the present invention provides service users with the easy recognition of applicable services, flexible selection of services to meet users’ purposes, and smooth application of selected services to relevant data” (see 2:47-53).

As to claim 7, Chambliss et al. teaches a control method of an information processing system comprising an information processing apparatus which is used to operate a plurality of applications to request data input/output to/from a storage (see paragraph [0044] and Figure 2);

And a management host which manages said storage (see paragraph [0044]-[0046] and [0083]), said method comprising the steps of:

Obtaining information about said access request for each of said applications  
(see paragraphs [0082]-[0083]);

Calculating current amount of data accessed from each of said applications to  
said storage, in case of addition of said new application based on information about said  
obtained access request (see paragraphs [0082]-[0083]);

Accepting specification of a new application (see paragraphs [0082]-[0083]);

Calculating estimated amount of data accessed from each of said applications to  
said storage, in case of addition of said new application based on information about said  
obtained access request (see paragraphs [0082]-[0083]);

Calculating estimated amount of data in case of addition of said new application  
based on said calculated current data and information about said obtained access  
request (see paragraphs [0082]-[0083]); and

Chambliss et al. does not teach outputting said calculated estimated amount of  
data.

Sekijima et al. teaches outputting said calculated estimated amount of data (see  
3:53-59).

Therefore, it would have been obvious to one of ordinary skill in the art at the  
time the invention was made to have modified Chambliss et al. by the teaching of  
Sekijima et al., since Sekijima et al. teaches that “the present invention presents users  
with a list of applicable services dynamically updated and enables the users to specify  
selective combinations of the services. Thereby, the present invention provides service  
users with the easy recognition of applicable services, flexible selection of services to

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meet users' purposes, and smooth application of selected services to relevant data" (see 2:47-53).

As to claim 8, Chambliss et al. teaches:

Wherein said storage comprises at least one port and at least one array group including a plurality of disk units (see paragraph [0044]. There are connections between the different elements of the systems. Connections between components are 'ports');

wherein said information processing apparatus accesses via said port, a virtual area provided by said at least one array group wherein said information processing apparatus accesses, via said at least one port, a virtual area provided by said at least one array group (the specification of the present application describes a 'virtual area' in paragraph [0062]: "The array group provides one virtual area comprising a plurality of redundant physical disk units". Chambliss et al., paragraph [0048], states that "the storage system is a collection of RAID controllers". As RAID stands for "Redundant array of inexpensive disks", and as a virtual area is comprised of "a plurality of redundant physical disk units", then Chambliss et al. teaches this limitation),

Wherein said estimated amount of data is calculated in case of addition of a new application for each of said at least one port and said at least one array group to process in series said access request and for available combinations of configurations of said at least one port and said at least one array group (see paragraphs [0044]-[0046]. The access process section can include the storage drives, and the gateways.

Also see paragraphs [0088] and [0089]. Requests can be added to a delay queue, and processed 'in series' that way).

As to claim 9, Chambliss et al. teaches a program for calculating load data in an information processing system comprising an information processing apparatus which is used to operate a plurality of applications to request data input/output to/from a storage (see paragraph [0044]-[0046] and [0083]);

And a management host which manages said storage, wherein said program is tangibly embodied on a machine-readable storage device (see paragraph [0044]-[0046] and [0083]), the program comprising:

Means for monitoring an access request from said application and obtaining information about said access request for each of said applications (see paragraphs [0082]-[0083]);

Means for calculating current amount of data accessed from said application to said storage based on information about said obtained access request (see paragraphs [0082]-[0083]);

Means for accepting specification of a new application (see paragraphs [0082]-[0083]);

Means for calculating estimated amount of data accessed from said application to said storage, in case of addition of said new application based on information about said obtained access request (see paragraphs [0082]-[0083]);

Means for calculating estimated amount of data in case of addition of said new application based on said calculated current amount of data and information about said obtained access request; and

Chambliss et al. does not teach means for outputting said calculated estimated amount of data.

Sekijima et al. teaches means for outputting said calculated estimated amount of data (see 3:53-59).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Chambliss et al. by the teaching of Sekijima et al., since Sekijima et al. teaches that "the present invention presents users with a list of applicable services dynamically updated and enables the users to specify selective combinations of the services. Thereby, the present invention provides service users with the easy recognition of applicable services, flexible selection of services to meet users' purposes, and smooth application of selected services to relevant data" (see 2:47-53).

As to claim 10, Chambliss et al. teaches:

Wherein said storage comprises at least one port and at least one array group including a plurality of disk units (see paragraph [0044]. There are connections between the different elements of the systems. Connections between components are 'ports');  
wherein said information processing apparatus accesses, via said at least one port, a virtual area provided by said at least one array group (the specification of the

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present application describes a 'virtual area' in paragraph [0062]: "The array group provides one virtual area comprising a plurality of redundant physical disk units".

Chambliss et al., paragraph [0048], states that "the storage system is a collection of RAID controllers". As RAID stands for "Redundant array of inexpensive disks", and as a virtual area is comprised of "a plurality of redundant physical disk units", then Chambliss et al. teaches this limitation),

wherein said means for calculating estimated amount of data calculates the estimated amount of data in case of addition of a new application for each of said a least one port and said at least one array group to process in series said access request for available combinations of configurations (see paragraphs [0044]-[0046]. The access process section can include the storage drives, and the gateways. Also see paragraphs [0088] and [0089]. Requests can be added to a delay queue, and processed 'in series' that way).

### ***Response to Arguments***

5. Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).



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A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles D. Adams whose telephone number is (571) 272-3938. The examiner can normally be reached on 8:30 AM - 5:00 PM, M - F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Rones can be reached on (571) 272-4085. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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